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10/790,146	03/02/2004	Eugene I. Chong	19111.0143	3039

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EXAMINER	
WU, YICUN	

ART UNIT	PAPER NUMBER
2158	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,146	CHONG ET AL.	
	Examiner	Art Unit	
	YICUN WU	2158	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

III. DETAILED ACTION

1. Claims 1-2, 4-20 are presented for examination.

2. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

Remarks

Claim objection has been withdrawn in view of claim amendment and remarks.

Rejection under 35 USC 101 to claims 1-2, 4,17 have been maintained.

With respect to independent claims 5-14 and 18, "a computer-implemented method" is interpreted to be a method implemented on computer system which comprises suitable combination of hardware and/or firmware such as one or more processors and memory and storage device for processing and storage information.

Claim 17 has not been amended to method claim (Examiner believe this is a typo).

Examiner did address claims 17-18 in the previous office action.

Examiner made 101 as well as art rejections. These claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. As such, they fail to tie with a statutory category. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state. Specifically, computer program product and computer code presents the claim as "software per se." in addition to hardware storage devices, Carrier waves, signals, transmission medium or other forms of energy are also considered tangible computer readable medium.

Claim limitation similar to the following would have overcome the 101 rejections: "computer readable storage medium having a computer program stored upon, when executed by a processor, performing steps comprising ", given the specification has enough support for " computer readable storage medium" to be interpreted to include hardware storage devices and to **exclude** any media which includes carrier waves, signals, or other forms of energy.

Applicant argued about "guess database address".

Examiner Liu does not have the direct address either, Liu went through numerous steps to search for the address, so Examiner consider that as guessing an address. (see Liu, col. 2, lines 50-60).

Claim Objections

4. Claim 1 is objected to because of the following informalities: the Examiner is not clear about the meaning of the claim.

" the primary B+tree a row". Does applicant meant 'a row of the primary B+tree"?

"data stored" There might be insufficient antecedent basis for this limitation in this claim language. Does "data stored" refers to "a row of the primary B+tree"?

This might invoke claim rejection under *35 USC § 112* , second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 15 and 19, the claims may have fail to place the invention squarely within one statutory class of invention.

On page 15, lines 15-20 of the instant specification, applicant might has provided evidence that applicant intends the "medium" to include signals. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter. Refer to the remark section for further details.

Similar claims with similar claim language are similarly objected.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

a. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-2, 4 and 17 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

A § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to nonstatutory subject matter.

As to **claims 1**, recited purely mental steps. The claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. As such, they fail to tie with a statutory category. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 15 -16 are rejected under 35 U.S.C. 102(e) as being anticipated over Chong et al., (U. S. Patent No. 6,859,808).

As to Claims 1, 5, 15 -16, Chong et al. discloses a system for organizing and accessing a database, the system comprising:

a secondary B+tree for indexing a primary B+tree, wherein the secondary B+tree comprises a plurality of rows each comprising an index key value(fig. 1), and

a guess-database address that is a guess as to what address block of the primary B+tree a row may be found (fig. 1),

where data stored in the database is retrieved using the secondary B+tree (fig. 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 5-9 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (U.S. Patent 6,266,660) in view of Nagavamsi al. (U.S. Patent 6,631,366).

As to Claims 1, 5, 15 -16, Liu et al. discloses a system for organizing and accessing a database, the system comprising:

a secondary Btree for indexing a primary Btree, wherein the secondary Btree comprises a plurality of rows each comprising an index key value(col. 2, lines 30-45), and

a guess-database address that is a guess as to what address block of the primary Btree a row may be found (col. 2, lines 30-45),

where data stored in the database is retrieved using the secondary Btree (col. 2, lines 30-45).

Liu et al. does not explicitly teach a B+tree.

Nagavamsi teaches a B+tree (col. 2, lines 21-25).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Liu et al. with a B+tree.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Liu et al. by the teaching of Nagavamsi because providing the B+tree allows improved performance in execution speed and reliability as taught by Nagavamsi (Col. 2, line 1-9).

As to Claims 2 and 14, Liu et al. as modified teaches a system, wherein the guess-database address are 4 bytes of the address blocks in the primary B+tree (it is well known in the art to store 4 bytes of the database addresses).

As to Claims 4, Liu et al. as modified teaches a system, further comprising:

a guess-database address quality statistic for the secondary index (Liu col. 2, lines 30-45),, where the guess-database address quality statistic represents a ratio (using statistic to represents a ration is well known in the database) of how often the guesses as to where rows may be found in an address block of the primary B+tree are accurate (Nagavamsi Col. 2, lines 25-37).

As to Claims 17-20, Liu et al. as modified teaches a system wherein each row in the plurality of rows further comprising a mapping table rowid value that identifies a row within a mapping table (Nagavamsi Col. 2, lines 25-37).

As to Claims 6, Liu et al. as modified teaches a system further comprising:

inserting a row of the secondary index, wherein inserting the row comprises inserting a row comprising an index key value, a mapping table rowid value and a guess database address (Nagavamsi col. 2, lines 25-36).

As to Claims 7, Liu et al. as modified teaches a system, further comprising:

deleting a row of the secondary index, wherein deleting the row comprises locating a row comprising an index key value and a mapping table rowid value and deleting the row (Nagavamsi col. 2, lines 25-36).

As to Claims 8, Liu et al. as modified teaches a system, further comprising:

updating the secondary index, wherein updating the secondary index comprises locating a row of the secondary index comprising an old index key value and a mapping table rowid value , deleting the row and inserting in the row a new index key value, a mapping table rowid value and a guess database address (Nagavamsi col. 2, lines 25-36).

As to Claims 9, Liu et al. as modified teaches a system, wherein retrieving data stored in the database system further comprises:

obtaining a first guess database address value representing a first address block of the primary B+tree structure (Liu col. 2, lines 30-45);

searching the first address block of the primary B+tree for a row that contains a mapping table rowid value that is the same as a mapping table rowid value (Nagavamsi col. 2, lines 25-36) in the row where the first guess database address is stored in the secondary index row (Liu col. 2, lines 30-45); and

if the mapping table rowid is found, then the correct row in the primary B+tree has been located and the data is retrieved (Liu col. 2, lines 30-45).

Allowable Subject Matter

7. Claims 10-13 would be allowable if rewritten in independent form and if rewritten to overcome the objection and rejection(s) under 35 U.S.C. 101 and objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

6. **THIS ACTION IS MADE FINAL**, , Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, *See MPEP 706.07(a).* Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory- period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply-expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOHAMMAD ALI can be reached on 571-272-4105. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu
Patent Examiner
Technology Center 2100

December 16, 2009

/Yicun Wu/

Primary Examiner, Art Unit 2158